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Annual district reports: Forest Insect and Disease Survey, Prairies Region, 1975

by J. Petty, R.M. Caltrell, A.E. Campbell, F.J. Emond V. Hildahl, V.B. Patterson, G.N. Still, J.P. Susut, and R.C. Tidsbury

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ANNUAL DISTRICT REPORTS: FOREST INSECT AND DISEASE SURVEY, PRAIRIES REGION, 1975

BY

J. PETTY, R.M. CALTRELL, A.E. CAMPBELL,
F.J. EMOND, V. HILDAHL, V.B. PATTERSON,
G.N. STILL, P. SUSUT, AND R.C. TIDSBURY

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APRIL 1976

NORTHERN FOREST RESEARCH CENTRE
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Petty, J. *et al.* 1976. Annual district reports: Forest Insect and Disease Survey, Prairies Region, 1975. Environ. Can., Environ. Manage. Serv., North. For. Res. Cent. Inf. Rep. NOR-X-154.

ABSTRACT

This report presents the results of the 1975 annual survey of forest insect and diseases in Manitoba, Saskatchewan, and Alberta. Estimates of defoliation by the forest tent caterpillar (*Malacosoma disstria* Hbn.) in 1976 are given for Manitoba and Saskatchewan.

RESUME

Ce rapporte présente les résultats du lever de plan des insectes et maladies forestières en 1975 dans le Manitoba, la Saskatchewan, et l'Alberta. A ceci s'ajoutent la prédiction du défeuillage en 1976 par la liuvrée des forêts (*Malacosoma disstria* Hbn.) dans le Manitoba et la Saskatchewan.

INTRODUCTION

by

J. Petty

In 1975 the Forest Insect and Disease Survey continued to concentrate on specific problems and liaison and extension activities. The insect or disease problems considered to be the more important in the region were monitored and, at the request of client agencies, specific problems were investigated. Extension calls within the region increased (Tables 1 and 2), as did requests for illustrated lectures on recognition of important tree pests. As a step to improving this service, photography of insects and diseases common to the region was given a high priority.

FIELD STAFF ASSIGNMENTS

Manitoba	A. E. Campbell
Saskatchewan	F. J. Emond (Supervisor) R. C. Tidsbury
Alberta	V. B. Patterson (Supervisor) R. M. Caltrell
Special assignments	J. P. Susut G. N. Still

SUMMARY OF INSECT AND DISEASE CONDITIONS

The forest tent caterpillar was again the most notable and widespread defoliator of deciduous trees within the region. Infestations increased in Manitoba, decreased in Saskatchewan, and remained much the same in Alberta (See map). Populations of fall cankerworm declined in the Winnipeg area and remained relatively unchanged in agricultural areas of Manitoba and Saskatchewan. Spruce budworm infestations increased in size

and severity in the Fort McMurray area of Alberta and continued moderate to severe in the Spruce Woods and Interlake areas of Manitoba. An increase in jack pine budworm infestations was noted in the Sandilands and Spruce Woods provincial forests in Manitoba.

Of major importance was the confirmed presence of Dutch elm disease at three locations in Manitoba. Fire blight was more prevalent in urban areas of the region than in the past few years. The incidence of foliar diseaseswas low in 1975.

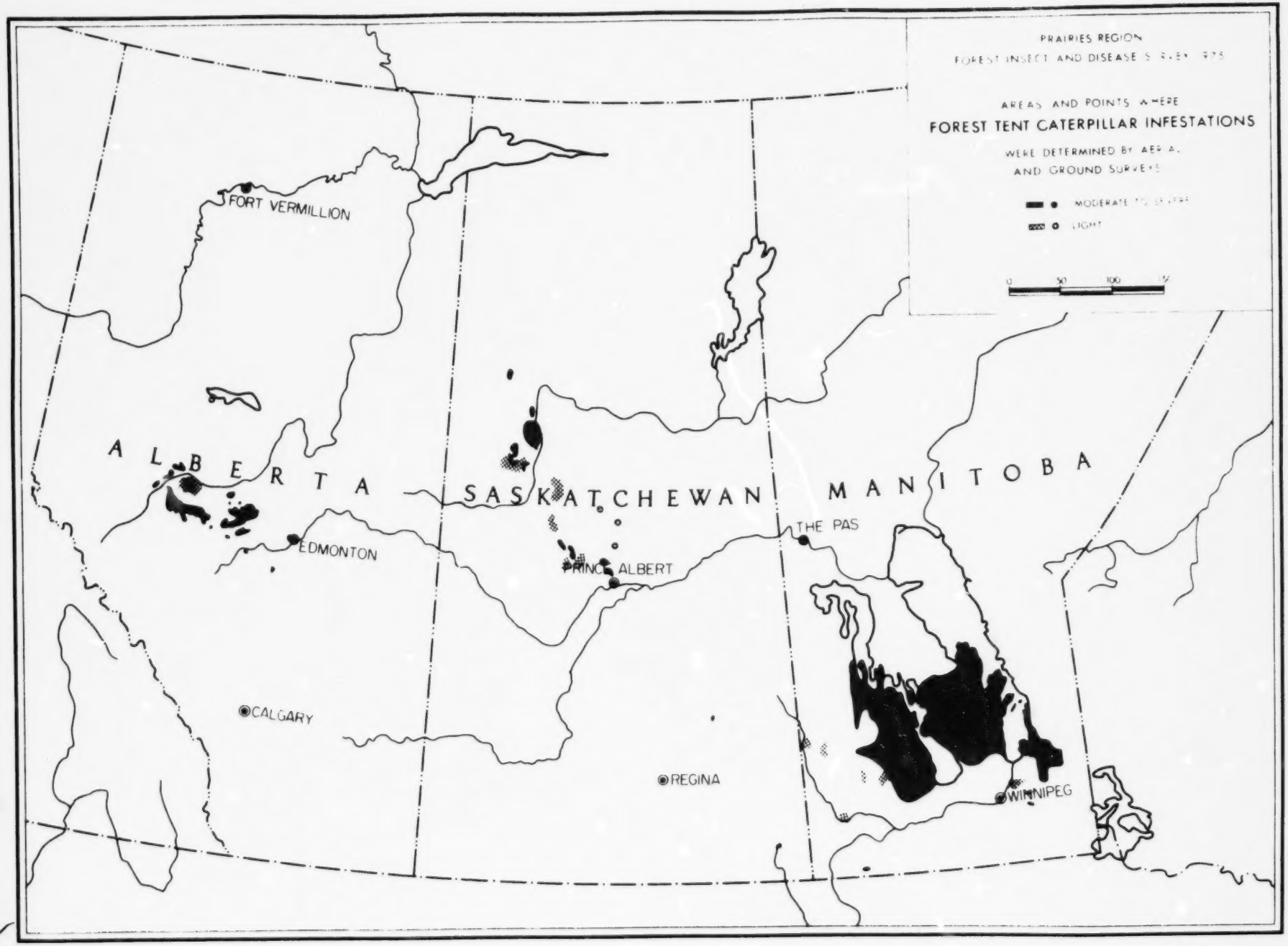
TABLE 1. Extension Enquiries by Host Species, 1975.

SASKATCHEWAN

Host	Spruce	Pine	Poplar	Maple	Birch	Elm	Ash	Apple	Misc. Hosts	Herbicide Effluents	Information Requests	Grand Totals
Insect	76	9	39	37	46	31	18	2	81		55	339
Disease	34	14	30	6	11	23	22	62	36			238
Total	110	23	69	43	57	54	40	64	117	25	55	657

ALBERTA

Host	Spruce	Pine	Poplar	Maple	Birch	Elm	Ash	Willow	Fruit Trees	Ornamentals	Misc. Hosts	Herbicide Effluents	Information Requests	Grand Totals
Insect	165	30	62	15	23	13	28	14	27	25	42		43	444
Disease	58	52	42	3	10	3	15	5	27	15	16			246
Totals	223	82	104	18	33	16	43	19	54	40	58	17	43	750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FOREST INSECT AND DISEASE S R.EY 975
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FOREST TENT CATERPILLAR INFESTATIONS
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AND GROUND SURVEYS
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MANITOBA
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PRINCE ALBERT
THE PAS
CALGARY
REGINA
WINNIPEG

ANNUAL DISTRICT REPORT, MANITOBA 1975

by

A. E. Campbell and V. Hildahl

INSECT CONDITIONS

Spruce Budworm, *Choristoneura fumiferana* (Clem.)

The outbreak of spruce budworm in white spruce stands throughout the Spruce Woods Provincial Forest and Park continued in 1975. Extremely high populations were noted in some localized areas, especially in the northwestern part of the forest and park where the most severe infestations have occurred in past years. In these areas tree mortality is becoming more pronounced and many stands are in a decadent condition. Elsewhere, moderate to severe defoliation was reported in the Grand Valley Provincial Campsite, in plantations at Max Lake in Turtle Mountain Provincial Forest, in the agricultural areas surrounding Arborg, Riverton, and Mulvihill, and in Birds Hill Provincial Park. Light defoliation occurred along the southwest side of Lake Winnipeg, near Poplarfield, and north of Mulvihill.

Aerial application of chemical spray to control spruce budworm was continued in the Spruce Woods area in 1975, but the total area treated was reduced. Field sampling following the spray operation indicated that larval incidence was reduced by 70-75%, resulting in good foliage protection. Observations in late fall indicated good bud development throughout the spray area.

Forest Tent Caterpillar, *Malacosoma disstria* (Hbn.)

This defoliator of trembling aspen remained at extremely high infestation levels throughout many parts of the province. The migratory

habit of full-grown larvae drew much attention and caused concern to cottage owners, rural residents, and tourists. Severe defoliation was general throughout the Interlake area, west of Lake Manitoba to Riding Mountain National Park and Dauphin Lake, and southeast of Lake Winnipeg to Whiteshell Provincial Park. Small areas of severe defoliation occurred in the Vivian-Richer area and adjacent to the northwest corner of Turtle Mountain Provincial Park. Patches of light defoliation were reported from several areas of the southwestern part of the province. In Winnipeg many residents reported localized high populations on apple trees in the early part of the season, but serious defoliation did not occur. A decline in populations was evident along the southern and southeastern escarpments and the western end of Riding Mountain National Park.

There was no evidence of a widespread buildup of natural control factors such as parasites, predators, or disease although high numbers of the flesh fly, *Sarcophaga aldrichi*, were recorded in two localized areas, along the eastern side of Riding Mountain National Park and in the Nutimik Lake area of Whiteshell Provincial Park. Insecticides were sprayed in several areas to reduce populations of forest tent caterpillar with varying degrees of success.

Egg band surveys to predict the extent and severity of defoliation for 1976 were conducted in co-operation with provincial Department of Agriculture and Tourism and Department of Recreation and Cultural Affairs. Results of this survey are shown in Table 2.

TABLE 2. Forest Tent Caterpillar Defoliation, 1974 and 1975 and Predicted Defoliation, 1976 in Manitoba.

Location	Defoliation 1974	Defoliation 1975	Predicted Defoliation 1976
Spruce Woods Prov. Park	-*	-	Light
Birds Hill Prov. Park	Trace	Light	Light
Grand Beach Prov. Park	Severe	Severe	Severe
Hecla Island Prov. Park	Severe	Severe	Severe
Turtle Mt. Prov. Park	Nil	Nil	Nil
Manipogo Prov. Park	Severe	Severe	Severe
Moose Lake Prov. Park	-	-	Light
Grand Valley Prov. Park	Trace	Light	Severe
Asessippi Prov. Park	Light	Light	Moderate
Whiteshell Prov. Park			
-Falcon Lake	Trace	Nil	Severe
-Brereton Lake	Light	Nil	Light
-Big Whiteshell Lake	Light-Mod.	Moderate	Light
-Rennie River	Light	Light	Severe
-Barrier Bay	Severe	Severe	Severe
-Otter Falls	Severe	Severe	Severe
-North Park Entrance	Light	Light	Severe
Picnic Areas and Camping Sites			
-Lee River	Severe	Severe	Severe
-Seven Sisters	Moderate	Severe	Severe
-Poplar Bay	Light	Light	Moderate
-Black River	Light	Light	Moderate
-Manigotagan	Light	Light	Moderate
-Wanipigow Lake	-	Moderate	Light
-Wallace Lake	-	Light	Light
-Great Falls	Severe	Severe	Severe
-Telford	Trace	Light	Light
-Winnipeg Beach	Severe	Severe	Severe
-Hanusa	Severe	Severe	Severe
-Lundar	Severe	Severe	Severe
-Moosehorn	Severe	Severe	Severe
-Lake Manitoba Narrows	Severe	Severe	Severe
-Camp Hughes	Nil	Nil	Light
-Rivers	Nil	Nil	Nil
-Amaranth (Park)	Severe	Severe	Severe
-Alonsa (Margaret Bruce Park)	Severe	Severe	Severe

Location	Defoliation 1974	Defoliation 1975	Predicted Defoliation 1976
-St. Ambroise	-	-	-
-Lynches Point	-	-	-
-Norquay Park	-	-	-
-Methley	Severe	Severe	Severe
-Rainbow Beach	-	Severe	Severe
-Pine Falls	-	Severe	Severe
-Hargrave (Virden-Kirkella)	Light	Light	Light
-Roblin	Light	Light	Light
-Pinawa	Severe	Severe	Severe
-Whitemouth	Light	Light	Severe
Agricultural and Forested Areas			
-Sprague	Nil	Nil	Nil
-Milner Ridge	Severe	Severe	Severe
-Anola	Severe	Severe	Severe
-Lac du Bonnet	Nil	Light	Severe
-Eriksdale	Severe	Severe	Severe
-Inwood	-	Severe	Moderate
-Shorncliffe	-	Severe	Severe
-Washow Bay	Severe	Severe	Severe
-Langruth	Trace	Severe	Severe
-McCreary	Severe	Severe	Severe
-Ste. Rose du Lac	Severe	Severe	Severe
-Eddystone	Severe	Severe	Severe
-Chatfield	Severe	Severe	Severe
Additional Areas Sampled in 1976			
Tevlon	-	-	Light
Lake Francis	-	-	Light
Rock Lake	-	-	Light
Carman	-	-	Severe
Morden	-	-	Severe
Ashern	-	-	Severe
Hodgson	-	-	Severe
Dominion City	-	-	Light
Vita	-	-	Light
Sprague	-	-	Light
Richer	-	-	Severe
Brokenhead	-	-	Severe
Ethelbert	-	-	Light

Location	Defoliation 1974	Defoliation 1976	Predicted Defoliation
Garland	-	-	Nil
Winnipegosis	-	-	Severe

* Not sampled

Survey was conducted by Canadian Forestry Service personnel, Winnipeg Sub-office in co-operation with Manitoba government personnel, using the Hodgson-Winnipeg sampling method.

Jack Pine Budworm, *Choristoneura pinus pinus* Free

Larval populations of this defoliator continued to increase in the Spruce Woods and Sandilands forest reserves. In the Spruce Woods high larval incidence was reported in several plantations at Shilo and north of the Trans-Canada Highway. Because these plantations are considered to be of high value, aerial spraying was again undertaken. Field assessment of the spray operation showed that larval populations were reduced by about 70-75% which in most cases resulted in good foliage protection.

Moderate to severe defoliation occurred in jack pine stands throughout the southern section of Sandilands Provincial Forest and in patches along Highway 201 between Sundown and Piney. Low populations were present in Grand Beach Provincial Park and in the Rosenburg Area.

Fall Cankerworm, *Alsophila pometaria* (Harr.)

A decline in abundance of fall cankerworm occurred in Metropolitan Winnipeg. Defoliation was light throughout most of the city with the exception of scattered patches of moderate to severe defoliation along the Red, Assiniboine, and Seine rivers. Probably much of the decline can be attributed to the city's chemical spray program, although adverse weather during the hatching period and the presence of an egg parasite, *Teleonomus alsoplilae*, were also factors.

Elsewhere, moderate to severe defoliation was reported in farm shelterbelts and windbreaks from southwestern Manitoba, Dauphin, and Beausejour and in patches along the Red River from Emerson to Selkirk.

Yellow-headed Spruce Sawfly, *Pikonema alaskensis* (Roh.)

Light to moderate defoliation occurred on several young open-growing white spruce in Whiteshell and Birds Hill provincial parks, and north of Fraserwood in the Interlake area. In Riding Mountain National Park low to medium populations were present in Wasagaming, along Highway 10, and along the Lake Audy and Norgate roads.

Larch Sawfly, *Pristiphora erichsonni* (Htg.)

Moderate to severe defoliation occurred on tamarack trees at the north end of The Bog and light damage was noted north along Highway 10 from this area to Wanless. High larval populations were recorded in the McMunn area.

Birch Leaf Miners, *Fenusa pusilla* (Lep.) *Profenusa thomsoni* Klug.

These two leafminers together caused severe damage to white birch foliage in the Flin Flon, Baker's Narrows, and Cranberry Portage areas. Light infestations of *F. pulsilla* were recorded on isolated trees in Winnipeg.

DISEASE CONDITIONS

Dutch Elm Disease, *Ceratocystis ulmi* (Buism.) C. Moreau

In August 1975 the causal fungus of Dutch elm disease was isolated from American elms at three locations in southern Manitoba: Winnipeg, Selkirk, and Brandon. *C. ulmi* was positively identified in cultures from 7 trees in Curran Park at Brandon, from 5 trees in the Fort Garry area of Winnipeg, and from 17 trees in the Selkirk area. At Selkirk isolations were made from diseased wood taken from 9 trees and

from infected native elm bark beetles taken from the remaining 8 trees.

The announcement that Dutch elm disease was present resulted in a more than four-fold increase in the number of inquiries received from concerned citizens. During the field season more than 1000 trees on public and private properties were sampled, of which 230 required laboratory culturing for diagnosis.

Fire Blight, *Erwinia amylovora* (Burril) Winslow

This bacterial disease, which commonly attacks mountain ash, apple, hawthorn, and cotoneaster, was again the most frequently reported problem on ornamental trees. Reports of severe tree injury and mortality were received from Winnipeg, Dauphin, Carberry, Morden, Brandon, Portage la Prairie, and Selkirk.

Black knot of Cherry, *Dibotryon morbosum* (Schw.) T.S.

During the last 2 years there has been a noticeable increase in the incidence of this disease in urban areas. Reports of heavy infections occurring on cherry and May-day trees were received from Winnipeg, Morden, Brandon, Carberry, Dauphin, and Selkirk.

OTHER NOTEWORTHY INSECTS AND DISEASES

Causal Agent	Host	Remarks
INSECT		
Poplar bud gall mite *Aceria parapopuli* (Keifer)	Hybrid poplars	Severe injury in Winnipeg and Birds Hill.

Causal Agent	Host	Remarks
Hairy oak gall, *Acraspis villosa* Gill.	B. oak	Moderate infestations in local areas in Winnipeg.
Bronze birch borer, *Agrilus anxius* Gory	Weeping birch	Common in many areas of Winnipeg; some top kill.
Aphids	Deciduous trees	Common in southern Manitoba; some severe infestations.
Birch skeletonizer *Bucculatrix canadensisella* Cham.	W. birch	Severe localized infestations in two areas in Winnipeg.
Pear slug, *Caliroa cerasi* (L.)	Cotoneaster	Complete skeletonizing of hedges in Winnipeg and Portage la Prairie.
Large aspen tortrix, *Choristoneura conflictana* (Wlk.)	T. aspen	Numerous in Lee River area in association with forest tent caterpillar.
Yellow-necked caterpillar, *Datana ministra* (Drury)	W. birch	Localized severe infestation in Winnipeg.
Spruce cone worms, *Dioryctria* spp.	W. spruce	Severe cone damage on individual trees in Winnipeg, Brandon, and Whiteshell Provincial Park.
Gall mites, *Eriophidae*	A. elm Basswood G. ash M. maple Service berry	Common throughout southern Manitoba; more numerous than in recent years.
Wooly elm aphid, *Eriosoma americanum* (Riley)	A. elm	Severe infestation on isolated trees in Brandon and Winnipeg. Common in Wasagaming.
Spotted tussock moth, *Halisidota maculata* (Harr.)	G. elder	Isolated severe infestation in Winnipeg.

Causal Agent	Host	Remarks
Willow leaf miner *Lyonetia* sp.	Willow	Moderate to severe damage in the Birch River-Flin Flon area.
Spruce gall midge, *Myetiola piceae* (Felt)	W. spruce	Light infestation on isolated trees in Winnipeg.
Balsam fir sawfly, *Neodiprion abietis* (Harr.)	B. fir	Moderate infestations at Beausejour and in Whiteshell Provincial Park. Low populations in Riding Mountain National Park and Flin Flon area.
Spruce spider mite, *Oligonychus ununguis* (Jac.)	C. spruce W. spruce	Light to moderate infestations common in Winnipeg, Brandon, and Morden.
Poplar petiole gall aphid, *Pemphigus populitransversus* Riley	Cottonwood	In Winnipeg, Portage la Prairie, and Morden severe infestations caused premature leaf drop.
Pine needle scale, *Phenacaspis pinifoliae* (Fitch)	W. spruce C. spruce	Common in Winnipeg and Birds Hill; moderate to severe infestations.
Pine leaf aphid, *Pineus pinifoliae* (Fitch)	W. spruce	Moderate infestation on several trees in Winnipeg.
White pine weevil, *Pissodes strobi* (Peck)	W. spruce B. spruce	Common in Riding Mountain National Park.
Poplar borer, *Saperda calcarata* Say	Poplars	Moderate infestations on individual trees in Winnipeg, Selkirk, and Brandon.
DISEASE		
Spruce needle rust, *Chrysomyxa ledicola* Lagh.	W. spruce	Severe infection on groups or individual trees along Highway 10 between Flin Flon and The Pas. Light from The Pas to The Bog.

Causal Agent	Host	Remarks
Spruce cone rust, *Chrysomyxa pirolata* Wint.	W. spruce	Light infections in Whiteshell Provincial Park and Beausejour area.
Elm leaf spot, *Gnomonia ulmea* (Schw.) Thuem.	A. elm	Light infections on individual trees in Winnipeg, Birds Hill, and Beausejour.
Hypoxylon canker, *Hypoxylon mammatum* (Wahl.) Miller	T. aspen	Common in Max Lake area, Turtle Mountain Provincial Park.
Slime flux	A. elm S. elm	Common in Winnipeg.
Powdery mildew, *Uncinula salicis* (DC. ex Mérat) Wint.	Lilac	Many hedges in Winnipeg severely infected; caused premature leaf discoloration.
Aspen shoot blight, *Venturia macularis* (Fr.) E. Muell & V. Arx.	T. aspen	Common in southern Manitoba; moderate to severe in Turtle Mountain Provincial Park.
NON-INFECTIOUS DISEASE		
Chemical damage	Deciduous trees	Application of chemicals to control weeds in agricultural crops caused discoloration of trees in many shelterbelts in Southern Manitoba. Injury not serious.
Chlorosis, Iron deficiency	Apple, Mt. ash	Many ornamental plantings in Winnipeg severely affected.

ANNUAL DISTRICT REPORT, SASKATCHEWAN 1976

by

F. J. Emond and R. C. Tidsbury

INSECT CONDITIONS

Fall Cankerworm, *Alsophila pometaria* (Harr.)

Moderate to severe defoliation of Manitoba maple and American elm was recorded at several locations within Prince Albert. Light defoliation was prevalent throughout the remainder of the city. Light to moderate damage to both elm and maple shelterbelts was reported in the following general areas: Foam Lake, Yorkton, Melville, Maple Creek, Eastend, Shaunavon, Swift Current, Rosetown, and Kyle. Light damage was reported at Saskatchewan Landing Provincial Park and at several other locations throughout the agricultural area.

The spring cankerworm, *Paleacrita vernata* (Peck), commonly found in association with the fall cankerworm, was present in low numbers in most reported damage areas.

Poplar Bud Gall Mite, *Aceria parapopuli* (Keifer)

This insect pest was again common on hybrid poplar ornamentals and poplar shelterbelts in the southern part of the province. Light to moderate infestations were reported in the Melville, Weyburn, Swift Current, Gull Lake, and Elrose areas. Similar infestations were reported on trembling aspen in the McLean Trans-Canada Highway Campground and again on native cottonwood in Clearwater Lake Regional Park.

Forest Tent Caterpillar, *Malacosoma disstria* Hbn.

During an aerial survey conducted in the area north and northwest of Prince Albert, fairly large patches of moderate to severe defoliation of aspen were noted along both sides of the South Bay Inlet of Lac Ile à la Crosse and between Arsenault and Canoe lakes. Smaller patches of moderate to severe damage were observed along the southwest side of Emma Lake, near Northside, along the southwest side of Cowan Lake near Big River, in the immediate area of Big River, near Fort Black, north of Ile à la Crosse on the Aubichon Arm, near Buffalo Narrows, and in a small area northwest of Keely Lake. Light damage was recorded near McCallum, Sled, and Beaupre lakes and in several small areas south of Big River.

Ground surveys and reports revealed moderate to severe aspen defoliation along the northern fringe of the Beaver Hills south of Sheho and Tuffnell and north of Parkerview. This was the fourth year of defoliation in this area. Numerous colonies of the forest tent caterpillar were recorded on trembling aspen in the Moosomin Trans-Canada Campground. Low populations were reported on a variety of deciduous hosts throughout the eastern agricultural area.

Defoliation predicted for 1976 is shown in Table 3.

DISEASE CONDITIONS

Fire Blight, *Erwinia amylovora* (Burrill) Winslow

There was a marked increase in the incidence of this bacterial disease affecting some species of crabapple in several areas of Saskatchewan. The infection was confirmed in the following centers: Prince Albert, Saskatoon, North Battleford, Shellbrook, Moose Jaw, Swift Current, Estevan,

TABLE 3. Results of Egg Band Sampling and Predicted Defoliation by the Forest Tent Caterpillar, Saskatchewan.

Location	No. of Egg Bands per Sample	Predicted Defoliation 1976
Meadow Lake Provincial Park Jct. Hwys. 224 & 104	Nil	Nil
Meadow Lake Provincial Park Jct. Hwy. 104 & Waterhen Rd.	Nil	Nil
Meadow Lake Provincial Park Mile 20.5, Flotten Lake area	Nil	Nil
Meadow Lake Provincial Park North Boundary	Nil	Nil
Jct. Hwy. 104 & Keeley Lake Rd.	Nil	Nil
Canoe Lake, 5 miles S.	3	Light-moderate
Canoe Lake, 2 miles S.	10	Moderate
Green Lake	Nil	Nil
Emma Lake (Seaplane base)	30	Severe
Montreal Lake Rd., Mile 7	1	Light
7 Miles W. Jct. Hwy. 2 and Pulp Mill Rd.	1	Light
Trappers Lake area Prince Albert N.P.	1	Light

Survey conducted by Canadian Forestry Service personnel, Edmonton using Hodgson, Minnesota Sample Method.

Weyburn, Cut Knife, and Lloydminster.

In Prince Albert, where the disease was considered especially prevalent, several recommendations were made for severe pruning, and in some cases, complete removal of trees.

OTHER NOTEWORTHY INSECTS AND DISEASES

Causal Agent	Host	Remarks
INSECT		
Spruce gall aphid, *Adelges cooleyi*, Gill	W. spruce C. spruce	High incidence in central and southern areas of the province.
Pear slug, *Caliroa cerasi* (L.)	Cotoneaster	Moderate to severe damage in Prince Albert, Melfort, Wakaw, Shellbrook, and Swift Current. Light damage in North Battleford and Lloydminster.
Ash flower gall, *Eriophyes fraxinflora* (Felt)	G. ash	High populations on ornamentals in Weyburn, Saskatoon, Lanigan, Moose Jaw, and Swift Current.
Wooly elm aphid, *Eriosoma americanum* (Riley)	A. elm	Common on elm shelterbelts and ornamentals in the agricultural area.
Birch leaf miner, *Fenusa pusilla* (Lep.)	W. birch E. birch Cutleaf birch	Severe damage to ornamentals in Prince Albert, North Battleford, and throughout central Saskatchewan.
Lilac leaf miner, *Gracillaria syringella* (F.)	Lilac	Moderate to severe damage in Prince Albert, Melfort, Swift Current. Light to moderate damage in North and South Battleford, Maple Creek, Kindersley, and Kerrobert.

Causal Agent	Host	Remarks
Nuttall blister beetle, *Lytta nuttalli* Say	Caragana	Light damage in Estevan, Indian Head, and Outlook.
Spruce spider mite, *Oligonychus ununguis* (Jac.)	W. spruce C. spruce	Moderate damage reported in Leader, St. Louis, Prince Albert, Biggar, Kindersley, Lloydminster, Moose Jaw, and Yorkton.
Box elder aphid, *Periphyllus negundinis* Thos.	Maple	High populations reported throughout the agricultural area.
Pine needle scale, *Phenacaspis pinifoliae* (Fitch)	W. spruce Scots pine	Low to medium populations at Prince Albert, Biggar, Leader, and Moose Jaw. Low population in Assiniboia.
Yellow-headed spruce sawfly, *Pikonema alaskensis* (Roh.)	W. spruce C. spruce	A decrease in populations noted in the agricultural areas. Light damage especially noted at Madge Lake.
Ash borer, *Prionoxystus robiniae*	C. ash	Severe damage to boulevard trees in Swift Current.
Boxelder twig borer, *Proteoteras willingana* (Kft.)	Maple	Moderate damage at Yorkton, Melville, Bredenbury, Biggar, and Prince Albert.
DISEASE		
Spruce needle rusts, *Chrysomyxa* spp.	W. spruce C. spruce E. spruce	Light to moderate infections near Flin Flon, Meadow Lake, Crooked River, and Nipawin. Individual trees infected in Prince Albert National Park.
Poplar ink spot, *Ciborinia whetzellii* (Seaver) Seaver	T. aspen	Light to moderate infections in Duck Mountain Provincial Park.

Causal Agent	Host	Remarks
Cytospora canker, *Cytospora chrysosperma* (Pers.) ex Fr.	Poplars	Severe infections on 2-year-old stock near Yorkton.
Black knot of cherry, *Dibotryon morbosum* (Schw.) T.S.	Chokecherry	Severe infection in Canora. Common on native choke-cherry.
Septoria canker, *Septoria musiva* Pk.	N.W. poplar	Suspected infection in Dodsland.
NON-INFECTIOUS DISEASE		
Birch dieback	W. birch Cutleaf birch	Common in Prince Albert, Saskatoon, North Battleford, and Swift Current.
Winter drying	M. elm Mt. ash	Common throughout the agricultural area.

ANNUAL DISTRICT REPORT, ALBERTA 1975

by

R. M. Caltrell, J. P. Susut, and V. B. Patterson

INSECT CONDITIONS

Spruce Gall Aphids, *Adelges* spp.

High populations of spruce gall aphids were reported from most areas of the province. Shelterbelts, ornamentals, and natural stands of spruce in both urban and rural areas of the province sustained moderate to severe damage.

Large Aspen Tortrix, *Choristoneura conflictana* (Wlk.)

A considerable increase in the area defoliated by large aspen tortrix occurred in northern Alberta during 1975. Our information indicated that the majority of aspen stands in the Peace River and Footner Lake Forests were moderately to severely defoliated. Light to moderate defoliation occurred in the northern part of the Grande Prairie Forest. Light to moderate damage was observed in the Edmonton area, with moderate damage in Mayfair Park in Edmonton.

Forest Tent Caterpillar, *Malacosoma disstria* Hbn.

The population levels, areas, and degree of defoliation by the forest tent caterpillar did not change significantly from those of 1974.

Moderate to severe defoliation persisted in a 25-30 mile wide band from Lake Wabamum and Lac Ste. Anne northwest to Shining Bank and Base Line Lake. Severe defoliation occurred in an area bounded by Lake

Wabamun, Lac Ste. Anne, Oldman Lake, Sangudo, and Entwistle and also between Chip Lake and Whitecourt. Severe defoliation occurred in a small area on the east side of Pigeon Lake.

New in 1975 was a small area of moderate defoliation between Faust and Driftpile.

Spruce Spider Mite, *Oligonychus ununguis* (Jac.)

Populations of spruce spider mite were higher in many areas of Alberta than those observed or reported in 1974. Moderate to severe damage of ornamental and shelterbelt spruce was reported throughout the province from Edmonton southward. No reports or observations were made for the area north of Edmonton.

Yellow-headed Spruce Sawfly, *Pikonema alaskensis* (Roh.)

Population levels and the degree of defoliation of spruce by this insect were lower than in 1974. Low populations were present in most areas of the province, although a few individual ornamentals and shelterbelts still supported moderate populations. Population levels were low on roadside spruce in Jasper National Park.

Spruce Budworm, *Choristoneura fumiferana* (Clem.)

The infestation of spruce budworm along the Clearwater River east of Fort McMurray covered a larger area than in previous years and defoliation was more severe. This is the fourth year of the outbreak.

In the outbreak along the Athabasca River both north and south of Fort McMurray the area covered was larger and defoliation was more severe. Moderate to severe defoliation occurred south of Fort McMurray along the Horse River.

An outbreak has persisted in a spruce bluff northwest of Lacombe for the past 3 years. Population levels were low in 1975 and defoliation lighter than in previous years.

Moderate defoliation was recorded on ornamental spruce at one location each in Lethbridge and Edmonton.

DISEASE CONDITIONS

Fire Blight, *Erwinia amylovora* (Burril) Winslow

Infections of fire blight were reported on apple, plum, crabapple, and mountain ash trees from many urban centers in the central and southern portions of the province. Damage was particularly severe in Drumheller.

Winter Injury and Frost Damage

The winter of 1974-1975 was characterized by mild temperatures. This, combined with periods of wind and at times rapidly falling temperatures, caused winter injury and frost damage to most species of trees in all areas of the province.

Light red belt damage to lodgepole pine was observed in several locations north of Nordegg to Brown Creek. Light damage with a few pockets of moderate damage occurred southwest of Rocky Mountain House along Prairie Creek.

Observations of the climatic damage that occurred in Jasper Park during the 1973-1974 winter indicate that some mortality may occur in the severely affected areas.

OTHER NOTEWORTHY INSECTS AND DISEASES

Causal Agent	Host	Remarks
INSECT		
Poplar bud gall mite, *Aceria parapopuli* (Keifer)	Poplar	A serious pest in the southern portion of the province.
A flea beetle, *Altica populi* Brown	B. poplar	Common in the Red Deer area
Aphids	Maple Elm T. aspen L. pine	Open-feeding aphids were common in most areas
Spruce budworm, *Choristoneura biennis* Freeman	Spruce spp. A. fir	Light to moderate defoliation of spruce and fir was observed in Kootenay Park from Vermilion Crossing to the Paint Pots.
Cottonwood leaf beetle, *Chrysomela scripta* Fabr.	Poplar spp.	Light damage present in Moose Lake Provincial Park and in Jasper National Park.
Green rose chafer, *Dichelonyx Lacki* Kby.	T. aspen	Low populations present near Crossfield.
Leaf mite, *Eriophyidae*	T. aspen	Common in most areas.
American aspen beetle, *Gonioctena americana* (Schaeff.)	T. aspen	Low populations present in the Cypress Hills.
Root collar weevil, *Hylobius* sp.	Pine	Samples received from Slave Lake and Debolt.
Balsam-fir sawfly, *Neodiprion abietis* (Harr.)	W. spruce	Common on spruce along Johnston Canyon in Banff National Park.
Rusty tussock moth, *Orgyia antiqua* (Linn.)	Misc. hosts	Moderate populations in Edmonton.

Causal Agent	Host	Remarks
Pitch nodule maker, *Petrova* sp.	Pine	Found at Spruce Grove, Red Deer, Manning, Westlock, Edmonton, Moose Lake Provincial Park, and Bittern Lake.
Poplar serpentine miner, *Phyllocnistis populiella* Cham.	T. aspen	Scattered light damage in Jasper National Park.
Terminal weevil, *Pissodes strobi* (Peck)	W. spruce	Light infestations at Slave Lake, Stony Plain, Edmonton, and Blackfalds. Common in Kootenay National Park. Caused severe damage near Kootenay Crossing.
Poplar leaf roller *Pseudexentera oregonana* Wlshm.	T. aspen	Light damage in the Edmonton area.
Grey willow leaf beetle, *Pyrrhalta decora* (Say)	T. aspen	Low populations in the Cypress Hills
Spruce bud midge, *Rhabdophaga swainei* Felt.	W. spruce	High populations present in Mayfair Park in Edmonton. Medium populations in the Hinton area.
Poplar borer, *Saperda calcarata* Say	T. aspen	Caused severe damage to individual trees in Thunder Lake and Moose Lake provincial parks.
Spruce needle miner, *Taniva albolineana* Kft.	C. spruce	Caused light damage to Colorado spruce in a shelterbelt near Fleet and to ornamentals in Mayfair Park in Edmonton.

Causal Agent	Host	Remarks
DISEASE		
Spruce needle rust, *Chrysomyxa ledicola*	W. spruce	A few scattered trees were heavily infected in William A. Switzer Provincial Park. Light infections were observed in several locations west of Drayton Valley.
Pine stem rust, *Cronartium coleosporioides* Arth.	Pine	Samples received from Edmonton and Valleyview.
White pine blister rust, *Cronartium ribicola* J.C. Fischer	W. pine	Mortality and branch flagging were observed along Mt. Edith Cavel Road and Geraldine Tower Road in Jasper National Park. Reported for the first time in Banff National Park along old Boom Creek trail.
Leaf spot, *Drepanopoziza* sp.	T. aspen	Small area of severe infection at Crimson Lake Provincial Park.
Western gall rust, *Endocronartium harknessii* (J.P. Moore) Y. Hiratsuka	Lp. pine	Samples received from Lethbridge, Brooks, Falher, Edmonton.
Spruce needle cast, *Lirula macrospora* (Hartig) Darker	Spruce	Samples received from Calgary, Innisfail, and Lamont.

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